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nEXT M Maglev Turbo Pumps

EDWARDS



The nEXT step

The nEXT step in compact maglev turbomolecular pump deployment



Working principles of maglev turbo technology

Mag turbo pumps operate using a two-stage principle in conjunction with a primary pump to achieve desired vacuum levels:

Turbo Stage: Static ‘stator’ blades are positioned between the moving ‘rotor’ blades, which rotate at extremely high speeds. This rotation impacts gas molecules, creating momentum and directing particles from the inlet to the exhaust.

Compression Stage: As gas molecules pass through successive stages of the blades, they become increasingly compressed and are finally expelled through the exhaust.

In magnetically levitated turbo pumps the rotor blades are held in position by precisely deployed electromagnets, eliminating the need for mechanical bearing systems.

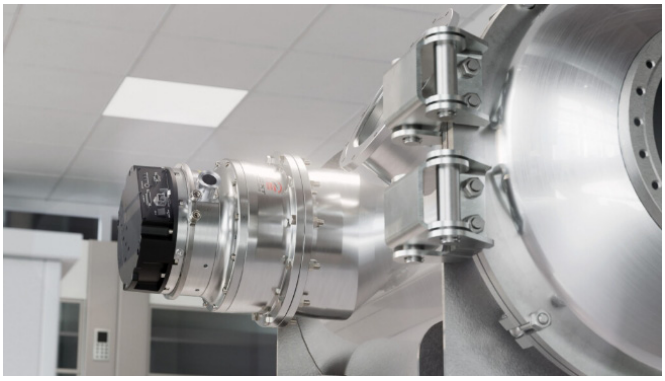
How mag turbo pumps differ from mechanical turbomolecular pumps

Mag turbo pumps, sometimes referred to as Maglev pumps, have a number of features that make them well suited to specific applications:

- Compact and Lightweight: One of the most compact maglev pumps in their class, ideal for space-constrained applications
- Mountable in any orientation: Additional flexibility by having the choice to deploy your pump at multiple angles from your chamber
- Minimal Noise and Vibration: Ensures a quieter and smoother operation
- Cleaner Performance: Delivers contaminant-free vacuum making them well suited for sensitive operations
- Range of Pumping Speeds: Available up to 3200 l/s
- Reduced Maintenance: Less frequent maintenance intervals due to reduced wear-and-tear

Features and Benefits

Compact, lightweight versatility



nEXT M pumps are one of the lightest and most compact mag turbo pumps in the 3000 l/s class. They can be mounted in any orientation and their space-efficient design makes them perfect for applications where space is tight or where the pump needs to be housed within equipment. The modern, lighter design also consumes less power during start/stop phases, enhancing energy efficiency.

Turbo charging profitability



With the performance of your process intrinsically linked to your overall productivity and profitability, maintaining consistent outputs has never been more critical.
With an updated rotor design, the nEXT M range offers minimal torque and impressive pumping speeds of up to 3200 l/s. The lower weight ratio of the rotors reduces power consumption during start/stop phases, further improving the pump's cost-of-ownership.

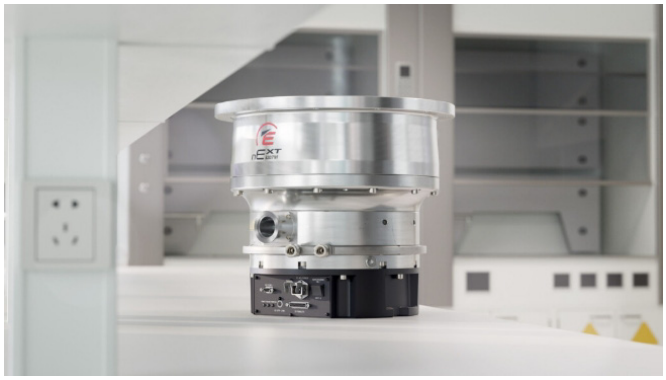
Hydrocarbon-free and minimal levels of vibration



For industrial processes requiring minimal levels of vibration or hydrocarbon-free applications, nEXT M pumps are an ideal solution. This technology ensures delicate procedures are not compromised by external interference.

Reliable performance, even in challenging conditions

Built to deliver consistent results in even the most hostile environments, including tolerance to vibration, mechanical shock, as well as dust and humidity, making them suitable for harsh or industrial environments.



Minimal maintenance, maximum uptime

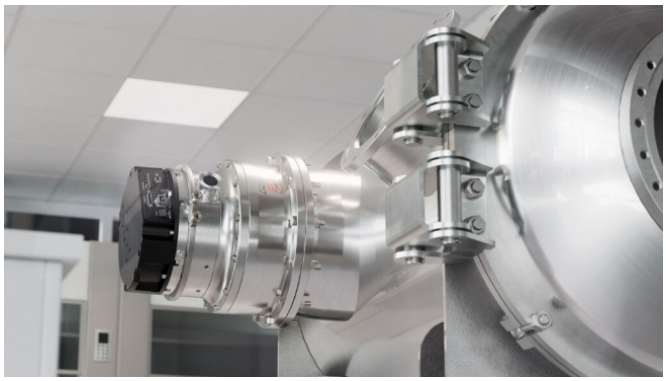
By using electromagnetic bearings, nEXT M pumps require minimal servicing. The reduced wear and tear compared to mechanical pumps ensure reliable and cost-effective vacuum solutions, with up to 80,000 hours or 10,000 cycles of maintenance-free operation.



Advanced functionality made easy

Mountable in any orientation

Providing the ultimate in flexible deployment, mount your pump from a range of orientations. Making integrating your nEXT M pump into your vacuum infrastructure even easier.



At your fingertips

Simple functionality and clear layout, and with a range of communications interfaces, all displayed on the same side/panel for ease of operation and installation.
The nEXT M range is easy to set up and install and is fully supported by access to Edwards configuration software for easy integration and systemisation.





High vacuum flange

Connects your vacuum pump to the chamber, available in flange sizes of DN250 and DN320.

One of the most compact designs on the market

Approximately 10% reduced height compared to typical turbo mag pumps. An ideal choice in environments with reduced space and where the pump needs to be housed with equipment.



Integrated controller

One-piece design, robust, compact, smooth, minimalist. I/O interface as standard and optional Profibus or RS485/RS232.



Markets and Applications

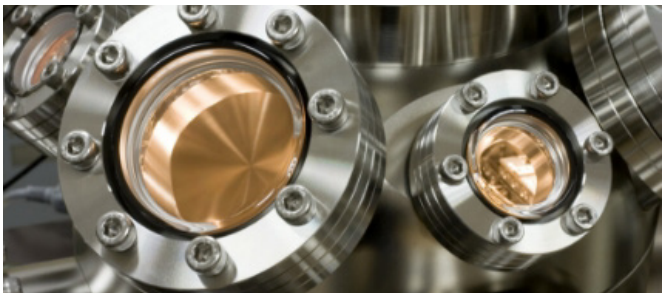
Coating Sector

Suitable for processes involving solar panels, decorative coatings, architectural glass, lenses, surgical instruments and aerospace components,



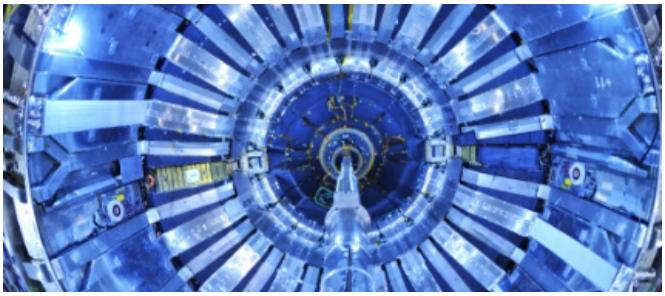
Industrial Applications

Able to withstand challenging environments, these pumps are ideal for precision-made machine parts and range of industrial applications including furnace and welding processes.



Scientific Research

Used in analytical systems, beamlines, particle accelerators, fusion research, and space simulation chambers (TVAC) simulating space conditions.



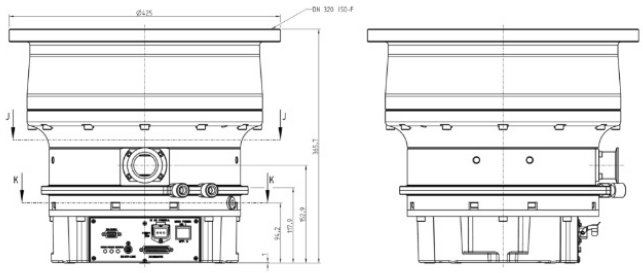
Why Edwards Vacuum?

With decades of experience in the scientific sector, Edwards Vacuum has established itself as the partner of choice for customers in the scientific, industrial, and coating sectors.
Our expansive range of vacuum solutions are renowned for their reliability, precision, and efficiency, making them ideal for a wide range of applications.
Our commitment to being at the forefront of innovation, ensures that we provide cutting-edge solutions tailored to meet the unique needs of our clients. Trust Edwards Vacuum to deliver unparalleled performance and support, backed by a legacy of excellence and expertise.

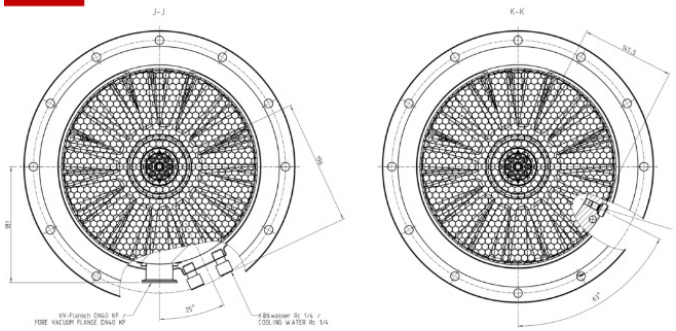


Dimensional Drawings

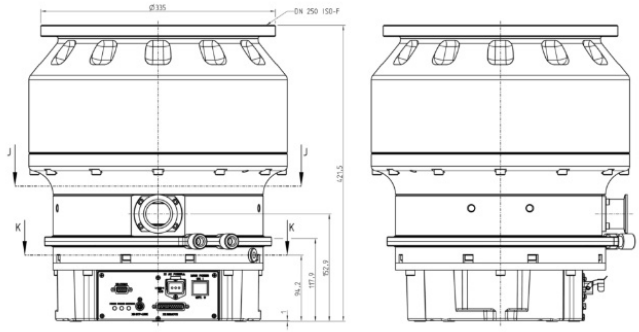
nEXT3207M



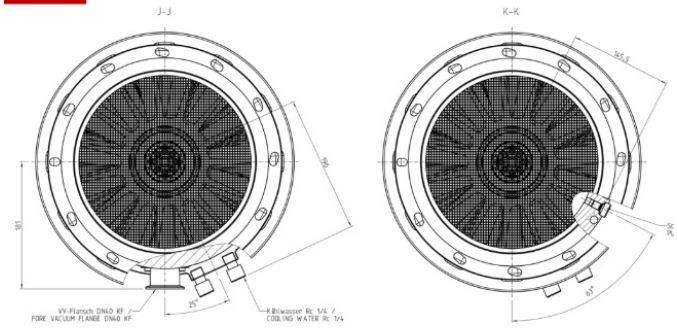
nEXT3207M



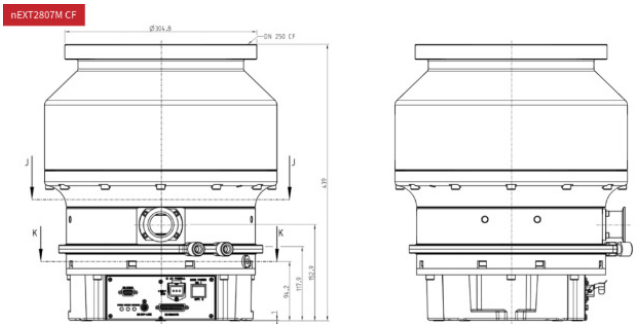
nEXT2807M



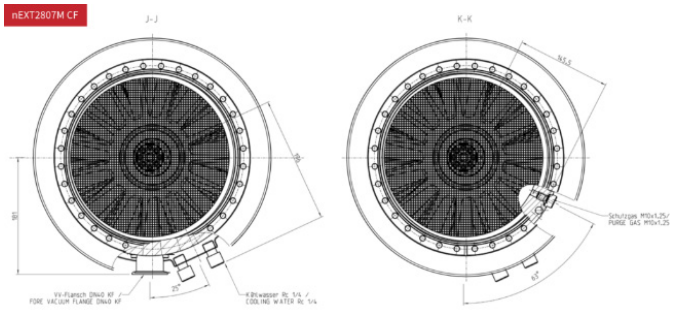
nEXT2807M



nEXT2807M CF



nEXT2807M CF



Technical Specifications

	Unit	nEXT2807M	nEXT3207 M
High vacuum flange	DN	250 ISO-F (CF)	320 ISO-F
Pumping speed (PNEUROP)			
N2	l*s-1	2350	3200
Ar		2150	3000
H2		1850	1950
He		2500	2750
Maximum compression			
Ar		≥ 1×10^ 7	
H2		1×10^3	
Maximum gas throughput *1*2			
Ar	mbar*l*s-1 [sccm]	26 [1540]	26 [1540]
N2		33 [1960]	33 [1960]
Maximum forevacuum pressure	mbar	1.4	1.4
Nominal/Maximum speed	rpm	31800	31800
Minimum speed		18240	
Backup rotational speed*3		Approximately 6000	
Ultimate pressure	mbar	<1*10-8 (<5*10-10)	
Maximum bake-out temperature	°C	120	
Run-up time	min	≤ 10	
Forevacuum flange	DN	40KF	
Cooling connection		Rc 1/4 (Female)	
Weight, approximate	kg	59 (79)	57
Noise level	dB	< 55	



Ordering information

Order number	Description
Pumps	
B8SM-A0G-60	nEXT2807M – DN 250 ISO-F; ProfiBus
B8SM-A0G-61	nEXT2807M – DN 250 ISO-F; RS485
B8TM-A0M-60	nEXT3207M – DN 320 ISO-F; ProfiBus
B8TM-A0M-61	nEXT3207M – DN 320 ISO-F; RS485
B8SM-A0K-61	nEXT2807M – DN 250 CF; RS485
B8SM-A0K-60	nEXT2807M – DN 250 CF; Profibus
Accessories	
B8G200850	Purging gas valve 0.6 / 24VDC / 1, 5-6 Bar
B8G200851	Purging gas valve 0.6 / 24VDC / 1-1, 5-6 Bar
412207V01	Purge adapter set for nEXT2807M and nEXT3207M
Accessories	
400153V0023	Bolts set 12 x M 10 x 35, 12.9 – coated (nEXT2807M)
400153V0022	Bolts set 12 x M 10 x 50, 12.9 – coated (nEXT2807M)
400153V0021	Bolts set acc 12 x M10 x 50 (stud bolts), 12.9 – coated (nEXT2807M)
400153V0019	Bolts set 12 x M x 12 x 45, 12.9 – coated (nEXT3207M)
400153V0020	Bolts set 12 x M 12 x 60, 12.9 – coated (nEXT3207M)
400153V0016	SET Brad screws M8 X 40 10.9 – COATED- standard CF
400153V0017	SET OF SCREWS M8x60 10.9 – GEOMET 500
400153V0018	SET STUD SCREWS M8x60 10.9 – GEOMET 500CF Alternative with less space



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